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MIND AND NERVOUS SYSTEM

IN THEIR
RELATION TO DISEASE.

BY
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ESSAY.

THE MIND AND THE NERVOUS SYSTEM IN THEIR GENERAL RELATIONS TO DISEASE.

BY EZRA M. HUNT, M.D.

ALTHOUGH the mind and the nerves are by no means synonymous terms, yet both, so far at least as inorganic life is concerned, have to do with thought, sensation, volition and motion; and as such we can not thoroughly dissociate them. There is no definite septum by which we can divide them, no mediastinum which spreads its surface between them; but intermingling and commingling they are intimate co-workers in elaborating the repeated miracle of existence. With their bearings upon mental philosophy, and the abstractions of human logic, we have little to do. No theme deals more in hypothesis, and none is less determinated by the balances and weights of mere human reasoning; but when we take the more sunny side of the subject and view it in its bearing upon medical science and medical art, we find in them both practical points which it is immensely important we should investigate and understand in order that we may be successful in deriving from them true principles of practice.

We are encouraged in this attempt by the amount of accurate knowledge in other departments, and the aid which this furnishes in conducting such an inquiry. Anatomy, not content with general divisions of bone, sinew, and muscle, has dissected down into the minutiae of matter until it enables us to speak with precision of the varied parts of this elaborate machinery. Physiology, with the delightful achievements of the present century, passes us from organ to function, and by rigid scrutiny and close analysis introduces us to the laws of secretion, excretion, nutrition and repair. Pathology comes to our aid with its revelations of the distinct relations of certain symptoms with definite changes, thus redeeming from the oblivion of death, pieces of disease, in order to construct from them living ideas which should tell for good on the treatment of the next sufferer; while amid them all, the microscope, as

an earth-angel of light to our calling, penetrates, with its multiple of eyes, the hidden points too minute for human optics, and brings even these to the cognizance of the microscopist's mind. Thus we are not groping in thick darkness when we attempt to grasp at the connections of nerve and mental states with the actual phenomena of disease.

When physicians were shut out from any such knowledge, we very naturally had the Galenists, with their theories of heat and moisture, and all their fanciful descriptions, while amid the dangers of learning, just extensive enough to be indefinite and venturesome, the alchemists experimented with almost equal rashness in crucibles and human stomachs. Next came the mighty war of the solidists and humoralists, one finding all the status and germ of disease in the solid, bulky, and located material, while the others beheld the liquids as the source of all bodily ailments, and the veins and arteries as the high roads and channels of death. From all these discussions, two important theories have been handed down to us of the present day, as the basis of medical science, and together with experience, as the foundations of correct practice. The one introduces us to man as a *machine*, to which the general laws of mechanics duly apply. It is important that we should continue to keep this view before us. In surgery it is a prominent indication, and in internal obstructions and local difficulties, we may often avail ourselves of the laws of gravity, and since Physiology has shown us how organs act, even this mechanical view is worthy of careful and thorough analysis. Yet we must not so admire the wonderful construction of the human form as to give undue preponderance to this idea. Errors in this respect showed themselves among our medical ancestors and still cling with tenacity to some practitioners. They led to manifold contrivances for putting and keeping bones in place and yet neglected general and hygienic measures. They felt the great indication to be to cleanse the stomach, move the bowels, unload the lungs, unlock the liver, drive out the eruptions, spur up the kidneys, and draw off all congestions by depleting the veins. This is the mechanics of medicine.

The second introduces us to man as a laboratory. It looks upon the human system as a chemical establishment upon a large scale—upon life as a grand chemical result, and the prac-

tice of medicine as merely an effort to correct the erring chemistry of disease. These views have received an impetus from the wonderful discoveries which the science, in our age, has heralded, and from the manifold combinations it has offered for our trial.

The laws of chemical action have a deal to do with the human system; but not only are we not mere chemistries, but the chemistry of man, as much as there is of it, is the most subtle and intricate of its departments, and the following sources of error must be remembered:

I. Changes and combinations which will take place invariably out of the body will not always occur within it.

As far down as the stomach you may follow an acid with an alkali, or a poison with its chemical antidote, yet even here we find sources of trouble, and must be on the look-out that our new compounds are not redissolved. When we pass this, the only portal gate to the vast system of absorption and circulation, our chemical affinities are involved in many doubts. Because a certain substance is wanting in the blood, we do not always most directly furnish it by giving a chemical preparation containing it. In fact, medicines, parts of which are not in the blood in its normal state, such as Iodine and Quinine, are sometimes our most efficient remedies, and are not known to act chemically.

II. The results of the act of chemical combination may be deleterious to the system even though the compound itself would be innoxious or useful. There are gases set free and noxious vapors formed in the process of combination, and when we proceed to treat the human system as a chemical power we must take account of these liabilities.

III. The laws of chemistry which are applicable in health, are not equally so in disease. Physiological and pathological action are two very different things, and the laws of the one do not guide to those of the other. In Cholera, as has been shown by administering coloring material, one great terror is that absorption is suspended, chemical conclusions as to astringents, etc., are stultified, and nothing, or nothing at least except the most powerful stimulants impressing the nervous system, can reach it. In low fevers, and in many other diseases, what chemical laws there have been are set aside. How few,

after all, are the remedies which we have reason to believe act chemically. In the poisons of the exanthemata, we do not attempt chemical antidotes—in fevers we do not know of specifics—in inflammations we can not neutralize, and in chronic diseases we can not follow out chemical laws. Chemistry is, to a great extent, a demonstrative science, and yet the effects of medicine on a diseased system, it seldom demonstrates to be chemical. Quinine has not been shown to act chemically on miasm, Colchicum on the gouty diathesis, or Chlorate of Potash on Stomatitis. Though alkalies benefit Rheumatism, there are serious and unanswered difficulties in the way of supposing them to act merely as neutralizing lithic acid; and in the great variety of medicines, how few show us a definite chemical power. Fear, emotion, and the like, will cause acid and alkaline reactions as well as Potash or Vinegar. When we obtain results, we must always value them as experience, but not always put them down as chemical results.

M. Trousseau, before the French Academy of Medicine, of late ventured so far as to say, that: "In the field of practical medicine, the chemists have not only no camp, but hardly enough ground to raise a tent upon." But our design is not to sustain such an opinion, or unduly to depreciate the value of either mechanical or chemical means, for we have already spoken of them as valuable contributions from the past. We only desire to restrict their claim within proper bounds, to subject them to accurate tests, and now to notice a third view as equally important in making out the philosophy and practice of treatment.

We have to do with something besides man the machine, and man the laboratory. There is something more ultimate than these in the investigation of human material and human life. A knowledge of nerve laws and of mental states as a part of the physician's attainments, and as having direct bearing upon treatment, must be fully recognized. We have an all-powerful, controlling, nervous agency; and connected therewith, an acting, thinking mind, which pushes in behind our mere flesh and blood calculations, and shows itself a power to be measured and met in the successful management of our patients.

This view has already modified the treatment of many in-

tense mental diseases, so that in asylums the strait-jacket and severe drastics have, in many cases, been superseded by the sympathetic influence of favorable outward circumstances, and by attention to such means as soothe and overcome, through mental and nervous impressions.

But in other diseases, too, we are certainly living in an age of wonderful modifications in treatment, in part to be traced to this mento-nervous view of man, or to an experience which, in advance, has thrust such investigations upon us. The days of heroic remedies and heroic practice have almost passed away. We now hear more of the adynamics than of the dynamics of disease, and are in search for phlogistics rather than antiphlogistics. The asthenic type even in inflammatory diseases is thought of as well as the sthenic and sub-acute ailments, with a prominent nerve element, attracting more and more our attention. The doctrine of irritation has thrust itself in behind that of inflammation.

In affections of the same general name as those in which our predecessors bled by the quart, Prof. Simpson is giving chloroform almost "ad libitum." Opium even in pneumonia and active inflammations, is disputing more and more vigorously the ground of the various depletives. Veratrum Viride, and other sedatives are suing for the place of eliminating depressants, and where the lancet, the emetic, and hydragogue cathartic once held the supposed ægis of health, Belladonna, Aconite, Strychnine, and Hydrocyanic Acid are claiming a more direct and effective sway.

Another significant point is, that these nervous and mento-nervous disorders are manifestly on the increase, and those who have been perplexed and troubled over this class of cases have, no doubt, sometimes united in the wish of that ubiquitous woman of Sydney Smith, Mrs. Partington, who "wished that she had lived in times when people had no nerves."

As we compare our experience with the subjects treated by the older authors, or as those among us venerable with age and practice compare their present with their earlier experience, it is readily admitted that there is a great proportionate increase of these diseases, and, what is equally important, of nervile and mental symptoms in diseases not entitled to that distinctive appellation. Not only has neuralgia become a pop-

ular disease, and hysteria so common even in men that authors do not object to the general application of the term, but fevers and inflammations have their mento-nervous element, and the name typhoid attaches itself in connections which would have seemed marvellous to the synochial Cullen, the bold Hunter, and the bleeding Rush. This being the case, we need not only to be chemists and pathologists, but nerve physiologists and psychologists too, not in the visionary sense of those resolving all disease into mystery and ideality, but rather in the substantial view of the thinking, conscientious, practical physician, who sees in his profession a vast scope of necessary science, and feels called upon to study mind and matter both, in order to obtain successful results. We must know something of human nature as well as of human flesh—of nerves as well as of muscles—of the moving powers of functions as well as the chemical laws and organs through which they are executed. We must be physicians not as dealers in physic, but, remembering the true derivation of our names, be practical philosophers in the study of man's nature.

Using the term *Neura-Psychology* as denoting that science which teaches us the relation of the mind to the nerves, and of both to disease, we believe it rapidly taking its place by the side of Mechanical and Chemical views of the human body; and, with these, as destined to acquaint us still more intimately with the fundamental laws which will in time guide to a more demonstrative practice. Examining the centres of nerve power—of sensation, emotions, perceptions and will—we are at the starting-points of disease, as well as of health. We are among the pivots and finer workmanship of that mighty machinery whose unseen driving-wheel is the Intellect, whose life-power acts first amid nerves, and whose methods of action bear directly on practice. The Physician, in making out his line of treatment, must ever have this in view—not, like the Specialist, confining his mind to the one idea, or, like the Charlatan, giving the credit of results from a real principle to unprincipled spiritual manifestations, sugar-pills, or magical manipulations; but, in so far as it is an appreciable law of human life, applying it to the management of disease.

That we may not seem to over-estimate these views, it may be worth our while to notice, for a moment, how far this prin-

ciple is tacitly or avowedly recognized by cotemporaneous practical writers on medicine.

"Impressions," says Watson, p. 971, "which are unheeded, are unfelt and inoperative." . . . "The senses become impassive in proportion as the mind is fixed upon some absorbing subject of reflection, or enchained by some powerful emotion—impressions made upon the organs of sense are no longer taken notice of; the corresponding sensations, if they are excited at all, are not remembered, and the effect of such impressions is as if they had never been; *they are not followed by the usual consequences.*" . . . "The morbid effect of cold upon the system, is certainly modified by the degree of attention that is paid to the sensation it excites."

"There are not wanting," says Wood, "facts to show that changes in the character of the blood, causing disease, may result from the action of the nerves, and the secretions become unhealthy under perverted nervous influence." (Vol. 1, p. 7.)

"The first symptoms of fever are such as indicate derangement of the nervous functions." (P. 83.) "There are not wanting practitioners who overlook, in a great measure, the collapse of the nervous system, (in passive congestions,) to search for the sources of danger in sanguineous engorgement." (P. 83.) . . . "Innumerable derangements in the secretory functions often depend exclusively upon disease of the nervous centres."

Then, as to mind: "Scarcely less essential to health than the due influence of external physical and moral causes, is that of the actions of the system regulated by the will." (P. 129.) "Mental influences are sometimes very powerful in superseding intermittent and other diseases." (P. 134.) . . . "Mental preöccupation is preservative, in a considerable degree, against some morbid effects." The influence of depressing passions is often fatally felt at periods of public calamity, either in a greater tendency to low forms of disease, or a greater susceptibility to any prevailing epidemic." (P. 65, vol. 1.) "Depressing mental emotion is often followed by a copious flow of aqueous urine." (Jones, p. 18 of *Braithwaite*, No. 38.)

"It is not long since a case came under my notice, in which grief for the loss of a relative was followed in a few hours by intense jaundice." (Carter.)

Dr. Carpenter mentions that "it is an India custom to detect a thief among the servants of a household, by causing them all to chew uncooked rice, the offender being distinguished by the comparative dryness of his mouthful." It is well known how fully this author recognizes the mind and nerves as pervading elements in disease. "A simple direction of the consciousness to a part independent of emotional excitement, but with the expectation that some change will take place in its organic activity," says he, "is often sufficient to induce such alteration, and probably would always do so, if the concentration of the attention were sufficient." By still more recent investigations, still more importance is to be attached to such views as these. M. Bernard, the Professor of General Physiology at the Academy of Sciences, ably presents the views of those contending that the "nervous system is not only the origin of all the phenomena of life, but is also that of all pathological action." "It is easy," says he, "to show that all the symptoms of disease to which different parts of the animal economy are liable, may be produced by direct irritation of their corresponding nerves. We can even give rise in this way to all the anatomical lesions by which they are characterized;" and in animals he has thus produced: Fever, Diarrhea, Dysentery, Peritonitis, Albuminuria, and other diseases, both general and local, not accidentally, but by definite irritation.

But this result is not only produced by material means. In man the mind and nervous states may so operate on the system as to bring about these results. "The series of motive and secretory phenomena, the results of mental emotion," says Marshall Hall, *Lancet*, 1857, "constitute a most interesting subject of new inquiry." Did time or space permit, the views of many others might be adduced to corroborate those already mentioned.

But we need but analyze our own knowledge and experience to set us to reflecting earnestly upon the mind and the nerves as elements of disease. The blush upon the cheek at a shy remark, the pallor of fear, the diarrhea from intense excitement, the feeling of prostration often following high emotion, the feeling better from the cheerful visit of the physician, the power of confidence as an element in cure, the dash of water

as reviving respiration in faintness, and multitudes of other familiar illustrations—what are these but index-fingers pointing us to the power of nervous and mental impressions? A fit of Hysteria is often relieved by a shrewd *coup d' état* on the part of the physician; often even in Colic the stomach is aided in retaining a medicine by the direct effort of the patient, assisted by the encouragement of his attendant; a pain is often controlled by persistent attention to the mento-nervous state of the sufferer, and real suffering sometimes ceases when an unexpected and welcome friend arrives. The truth is, we are none of us wanting in abundant facts illustrating the oft-controlling power of mental and nerve-force; but the fault is, that while mainly attracted by the Mechanics and Chemistry of treatment, we have not in general classified the facts so as to derive from them much guide in practice; they have been too much left to form the truthful basis upon which quackery has erected its foul superstructure. It will not do to pass all these off as imaginary and trifling ailments. The pain, the anguish, the phenomena, are real, and there is a real philosophy of treatment with which it is our duty to meet them. There is nothing in which we, as a profession, fail so much as in a practical management of this mento-nervous organism of man—regarding its manifestations in sickness too much as incidental complications, rather than as the starting-point of morbid action. But when such men as Marshall Hall, Sir Benjamin Brodie, Carter, Carpenter, M. Bernard, Brown-Sequard, Hanfield Jones, Winslow, and others among our most eminent Physi-, Psycho-, and Pathologists, have made specialties of this subject, and eminent practitioners are grasping at and applying the principle, we need not fear but that definite results will be attained.

Now let us briefly inquire, What are the theoretical consequences of these views of disease?

I. It vastly modifies the whole theory of treatment. It suggests ideas of practice behind and independent of the depletion of a congested organ, or the removal of a depraved secretion. If the disease has commenced in the nerves, our bleeding and cathartics, and all our Chemistry and Mechanics, are only removing results, not checking causes. It may be more worth our while to address remedies, such as sedatives or stimulants,

to the starting-point first, or, if too late for this, to value depletives and cathartics merely as preparing for these. It shows how at the early stage an opiate may cure a cold or an ague, and explains the value of that ten grains of Dover's powder after a bleeding. It points us to sedatives, stimulants, and tonics, as chief remedies, because addressed to nerves; and the so-called promoters of secretion, and chemicals generally, as very secondary—valuable only as they remove the morbid results of morbid action.

II. It starts us upon an accurate inquiry as to the opposite states of the nervous system causing similar symptoms.

We may have, it is believed, irritation of the nervous system, and even spasmodic action, from two very different conditions—from a prostration of the general system, or from over-excitation, just as we have all the symptoms of Hydrocephalus from an inflammation of the brain, or from the state of anæmia following cholera infantum. In the one case sedatives, and in the other stimulants, will accomplish the desired result. It is often a nice point of Diagnosis, the importance of which is only to be estimated by the prevalence of nerve symptoms. It is claimed by some that what we call alteratives are really nerve or tissue sedatives, and what is known and is popular as Todd's sustaining treatment in acute disease, claims that "alcohol is valuable, not as a medicine, but as a nutritive aliment of the nervous system."

III. These nerve views magnify the value of external medication. We affect the nervous organism powerfully through the skin. This cutaneous covering may not seem so hidden as the capsule of Glisson, or the Malpighian bodies, but with its no less wonderful mechanism, and its nearer proximity, we may address treatment to it full as certainly and wisely. Even the direct influence we may exert upon it is considerable, but when we take into the account all the phenomena of reflex action, we can scarcely overrate the importance of external appliances.

Medically, with its secretion, exhalation, capillary circulation, and, most of all, its nerve net-work, it is more worth our study than any one internal organ. The power we have over the system through it has never been overrated. The startling effects of a small scald upon a child, the power of the cold

douche, the connection of diseases with changes of temperature first impressing the skin, the quick relief often following a perspiration, or the free use of rubefacients as vesicants, plainly show this.

Many an external application which I once regarded as the grannyism of an antiquated practitioner, or the placebo of an officious nurse, I have learned to value, and I doubt not this is the experience of many others. What we are at present learning of the nerve origin of disease, explains many astonishing and recognized results of topical applications; and impressions made upon these cutaneous nerves reach deeper down among the fimbriated roots of disease than we have been accustomed to suppose. With the facts as to the important part, primary, secondary, direct and reflex, which the nervous system plays in disease, it is not difficult for us to see how external appliances are not only safe, but very efficient remedies.

IV. These views of the controlling power of the nerves, show us the importance of mental influences as a part of our treatment. Often, through the medium of the mind, we produce powerful effect upon the nerves, and with these acting so prominently, the mind, for good or ill, is a powerful instrument. Here, again, we are not wanting in bundles of facts, but are deficient in that classification of them which results in definite laws of practice. Joy and sorrow, love and fear, and all the varied emotions, how often they show their traces in disease. The play of the Will controlling, or half-pleasurably submitting to, irregular action, the power of the mind to resist disease, the ill effects of discouragement, the power of endurance under intense excitement, and the multitude of mental facts which come under the cognizance of every practitioner, unite to declare that as Physicians we are not mere Artisans—not only workers among matter—not merely repairers and jobbers amid unruly organs and irregular machines—but regulators of thought, will, sensation and emotion.

Take at random a case or two.

It is related of a distinguished practitioner of London, that in an epidemic of continued fever, all his patients had a disposition to jump out of a window upon the pavement. It was soon discovered that having had one patient do this, he afterward cautioned the nurse at each house he visited to guard against

such an accident. The patient, in his half-dreamy mood, became possessed to do the very thing.

Sir Humphry Davy, in his younger days, assisted Dr. Beddoes, who was trying to cure disease by the inhalation of gases. Before applying the inhaler, Davy was accustomed to ascertain the temperature by placing a thermometer under the tongue. While thus employed on a countryman, who fancied this was the wonderful process he had heard of, the man exclaimed that he already felt better. Davy took the hint, left the thermometer in its place some time, and reapplied it every morning. His patient improved in health, and ultimately got well, without any other treatment.

"The cures," says Dr. Beale, "effected by mesmerism, may be explained, in most instances, by the influence of the emotions, and a highly excited imagination."

It was once the fashion of regular practitioners, either to deny the cure, or else to assert that the disease was altogether imaginary. But too many facts have accumulated upon us in experience to enable us to sustain any such doctrine; and the true state of the case is just this: Real diseases may be cured by the intervention of imaginary remedies, the real cure being effected by the mind and will acting upon the nerves. The iniquity of the Charlatan is in deceiving others, and sometimes himself, by assigning some other cause. Many diseases are the result of a loss of will-power over what should be voluntary motion, and the effort of the practitioner should be to restore this. I have known a person capable of having a real convulsion at will, and have seen a child relieved by the persistent will of the mother, and abundance of authenticated cases are on record where the strong mental power of a friend has aided another in the restoration of lost will-power. Even in diseases not technically nervous; this principle comes in, and the mind often performs a part in prevention or recovery. It is no less the business of the practitioner to surround his patient with circumstances favorable to mental comfort, than it is to address himself to more material functions. It is not the weak-minded only who in sickness may be affected by apparently trivial circumstances. I have known the details of a nervous case related by a kind neighbor to throw a convalescent patient into an irritative fever, a report of a sudden death

to cast a gloom over favorable symptoms, and the knowledge of having taken a particular remedy to cause sensations corresponding to real results. These are but casual specimens of an experience which each practitioner can fully confirm, showing how the mind, through itself and the nerves, is an element in disease.

V. These considerations show what a small part it is of a good Physician's duty to deal out internal medicines—true, a part not to be discarded or despised—at times a grand indication; but we must put on and keep on the thinking-cap, and see how much we can do for a human sufferer by nutrients, by external appliances and surroundings, by mental preëccupation, or without, at least, plying the heavy machinery of rapid elimination. The surface impression, trembling along the lines of telegraphic net-work, will sometimes meet response as surely as the booming thunder of a cannon-shot. That Physician has a contracted view of the true glory of his profession who looks to giving pills and powders as the main point of his medical life; as a rule, it is the “dernier” resort. The four methods by which we reach the nervous and the prevailing elements of disease, namely, by mental impresssions, by correct Hygiene, by cutaneous impressions, and by internal remedies, each need a rigid surveillance. In the first we must need study the laws of emotions; in the second, physiology; in the third, those of direct and reflex nerve-action; and fourth, the subtle action of medicines, especially of sedatives, stimulants and tonics. Many of these are powerful as poisons, and, while limiting former heroic remedies, we must still feel that amid Chloroform, Veratrum, Aconite and Strychnine, we are dealing with *multum in parvo* heroics. Here Physiology, Pathology, Chemistry, and Mechanics teach us little—we must draw conclusions slowly, astutely, accurately, and then lean confidently on the arm of trustworthy *Experience*. It is thus this subject magnifies the value of rigid observation.

2. *a.* Now let us inquire what direct practical results we have from this mento-nervous view of disease. It is leading to changes in practice no less than to modifications of theory. Hanfield Jones, the able physician to St. Mary's Hospital, represents the actual practice of numbers when he remarks that, “Our great point in treatment is not to eliminate disease,

but rather to sustain the nervous system, and regulate its phenomena." In a large class of maladies where no organic change has occurred, we do not feel called upon to adopt the same active measures as if the blood-vessels or immediate organs were in fault. Hence, those modes of treatment in fevers and sub-acute inflammations, and in chronic diseases, which, instead of concentrating attention upon the elimination of morbid material, strive so to invigorate and impart tone to the nerve energy, as to make it incompatible with perverted secretion—stopping the manufacture of bad material, rather than expending all our force in evacuation. It may, at first sight, seem very scientific to correct bad secretions or unhealthy fluids by a mechanical rule or chemical formula, but when we find Bernard and others, demonstrating that "albuminuria, polyuria, and diabetes, are invariably produced by excitation of definite points of the medulla oblongata, the peculiar form being determined by the particular portion acted upon," we see that a tonic state of the nerves often cures a disease which mere solvents can not reach.

b. In cases of anæsthesia, or asphyxia, from any cause, we again have very practical results from these views of the nervous system. Ramsbotham remarks: "That the primary effort of respiration is upon the principle of nervous excitability, and, as *cutaneous nerves* are supplied from the same source as the diaphragm, we may effect it by irritation of the surface." This idea is applied to the resuscitation of infants, to cases of faintness, to checking hemorrhage; and thus in obstetrics we have a class of remedies more quickly responsive, and often more worthy of confidence, than those given internally. "The cutaneous excitor nerves are the mediums," says Marshall Hall, "through which we can excite respiration, and the glowing results of the adoption of a practice based upon such views by humane societies for rescuing the drowning, is an admirable practical illustration of results." Ought we not to follow out the hint in rescuing from other perils?

c. Still more glowing and encouraging is the light thrown upon direct diseases of the nervous system, as manifested by irregular action. Many affections, once regarded as organic, are shown to be eccentric, and of centripetal or cutaneous origin, and, as such, amenable to treatment. "The cases of

Epilepsy," says Hall, "which occur in private practice, are for the most part eccentric and curable, however, for many reasons, difficult to cure." "The sympathetic normal and morbid changes of nutrition, secretion, etc.," says Sequard, "are reflex phenomena, the study of which shows that many diseases are produced by reflex action, and how a rational mode of treatment may be arrived at. Much more frequently than has been imagined, all the following affections may be produced by a peculiar kind of irritation starting from almost any centripetal part of the nervous system: chorea, catalepsy, hysteria, tetanus, etc., etc." That manifold nervous affection coëxists with intestinal, uterine, and cutaneous irritation, is easily proven, and how they act and react on each other, as cause or effect, is a nice point for study. A large number of cases are on record where a single sensitive spot of skin has given rise to phenomena simulating disease of nervous centres, and Brown-Sequard's experiment with the guinea-pig beautifully illustrates this. These discoveries as to peripheral nervous irritation, have already been applied in practice with encouraging success, as well as the more general facts as to the nerve-origin of disease.

The bearing of these views upon Hygiene and dietetic measures, is well illustrated by a single extract from Sir Benjamin Brodie. "Mr. Chadwick," says he, "has shown that many are driven to drinking gin as affording a temporary relief to the feeling of depression and exhaustion produced by living in a noxious atmosphere," and he gives instances of individuals who had spontaneously abandoned the habit when they were enabled to reside in a less crowded and more healthy locality. . . . The Temperance Society "can make few converts among those who live in crowded buildings, unventilated, and with imperfect drainage." Here we have, as it should be, depression of the nervous system, resulting from external causes, recognized as the source of both physical and moral evil.

Next, as the mind is a powerful actor upon the nerves, we have learned to notice it in the treatment of disease. It is a high and legitimate part of our art to learn to use mental influences in our charge of the ailing. We need, in some cases, to study the minds of those who are sick, if we would secure their recovery. The phenomena of mental influences are so abun-

dant in the experience of every practitioner, that few now deny their power. One has a decided change of symptoms from misfortune ; another, knowing the action of a medicine he has taken, imagines all the ill consequences he has ever heard attributed to it ; a third, terribly fearing a prevailing epidemic, is the first to be attacked ; and numberless facts show us the mind as a power in diseases, general as well as local. Prof. Clark, in enumerating anti-hemorrhagic remedies in bleeding of the lungs, adds, "and, not the least important, the quieting of the mind of the patient." The success which in some cases has attended "the movement-cure" of Ling, as it is called, is not less dependent upon the mental than the muscular exercise it insures. It has been well remarked that paralysis often continues after the cause of it has been removed, "because it requires a special effort to reëstablish the connection of brain and muscles. The nerves must be reëducated to perform their functions by gentle, well-directed efforts of the will on the affected muscles, until the latent power is developed into an efficient one."

Forbes Winslow, tracing the moral results of mind-power, makes this weighty remark : "The power of self-control is in many instances weakened or altogether lost by a voluntary criminal indulgence in a train of thought which it was the duty of the individual in the first instance to withstand, control and subdue." But fully to elucidate our subject, would require a book, rather than an essay. Our design has been to introduce, rather than exhaust, the theme, and to commend it to those more competent, in its significant and practical bearings on our professional success. We have desired, by glances at facts, to give prominence to the nerve origin of disease, and at least to show that nervous and mental states are to be under supervision, and an effort in practice made to reach sources, rather than merely to remove morbid secretions resulting. There is no more fruitful field of inquiry now presenting itself in the whole range of our beautiful Science, and I shall be fully repaid if these thoughts shall lead those present to collate their own experience, and to investigate, test and apply these principles in their own practice.